TRUBLAYEVICH, I., kapitan-leytenant.

Stabilization of a warship. Voen. znan. 34 no.7:18-19 Jl '58.
(MIRA 11:9)

(Stability of ships) (Warships)

TRUBLAYEVICH, I., kapitan 3 ranga

New developments in weapons against ships.   Voen.znan. 38
no.1:25-26 Ja '62.   (MIRA 15:2)
                    (Ordnance, Naval)

PROCESSES AND PROPERTIES INDEX

"Study of Diagrams of State of the System Chromium Cobalt and Chromium Nickel Carbides. N. M. Zarubin and It. A. Trulaikur (Redkie Metalli (Rare Metals), 1955, (3), 38 40). [In Russian.] Chromium carbide was obtained by sintering carbon and chromium for 1-2 hrs. at 1000° C., or by sintering carbon and chromium oxide at the same temperature for 2-3 hrs. A mixture of Cr_3C_2 and Cr_7C_3 was obtained which, according to X-ray analysis, contained 13.1 13.6% carbon. The carbide sintered with the corresponding metal at 1450°-1600° C., the temperature depending on the carbide content. The solubility of chromium carbide in cobalt was found by microscopic examination to be 8%. The eutectic of cobalt carbide and 1415° C. The solubility of solution was found to be at 35% carbide and the eutectic is at 30% carbide and 1375° C. chromium carbide in nickel is 8%.

D. N. S.

METALLURGICAL LITERATURE CLASSIFICATION

TRUBMAN, S.V.

Method for chromium plating of machine parts having a complex contour
without using irregularly-shaped anodes. Zhur.prikl.khim. 35
no.2:452-455 F '62.   (MIRA 15:2)

1. Chernovitskiy zavod "Legmash".
                    (Chromium plating)

MEL'NIK, P.M.; SHREYBER, B.Ye.; TRUBMAN, S.V.

Cold chrome plating of machine parts. Zhur.prikl.khim. 36 no.3: 670-671 My '63.   (MIRA 16:5)
                            (Chromium plating)

S/080/62/035/002/019/022
D258/D302

AUTHOR: Trubman, S. V.

TITLE: Chromium plating of complex parts without use of con-
            figurational anodes

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 2, 1962, 452-455

TEXT: The author attempted to avoid the use of configurational
anodes in the chromium-plating of complex steel machine parts. This
was done by introducing a polishing step prior to the plating pro-
cess. A comparison between mechanical and electrolytic polishing
proved in favor of the latter. Turbine parts (rotors, etc.) and
narrowly grooved articles were electropolished for 4 to 7 min. at
40 - 50°C and 65 - 85°C, using current densities of 15 to 40 A/dm^2
at 12 V; the electrolyte contained 840 ml H_3PO_4/l, 160 ml H_2SO_4/l
and 70 g of Cr-oxide/l. The polished articles were subsequently
plated at 48 - 50°C, using flat anodes. Uniformly thick coatings
were obtained. It was concluded that electropolishing obviated the
use of anodes conforming to the shape of parts. The author also

Card 1/2

Chromium plating of ...

S/080/62/035/002/013/022
D258/D302

established the influence of metal decrystallization, occurring in the course of polishing on the nature of Cr deposition. It was shown that electropolishing enables the anodic dissolution of steel. There are 2 tables and 13 Soviet-bloc references.

ASSOCIATION: Chernovitskiy zavod 'Legmash' (Chernovitskiy 'Legmash' Plant)

SUBMITTED: February 10, 1961

Card 2/2

TRUEMAN, S.V.; MEL'NIK, P.M.; SHREYBER, B.Ye.

Mirror-bright nickel plating of small parts and objects in the presence of cadmium salts. Zhur. prikl. khim. 33 no.12:2793-2795 D '60.

(MIRA 14:1)

(Nickel plating)   (Cadmium salts)

25662
S/080/60/033/012/021/024
D209/D305

1087 1208 2210

11800

AUTHORS: Trubman, S.V., Mel'nik, P.M., and Shreyber, B.Ye.

TITLE: Shiny nickel-plating of small objects and articles in
             the presence of cadmium salts

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 12, 1960,
             2793 - 2795

TEXT: The best methods for the shiny nickel-plating of objects in
the presence of cadmium have been studied by F. Pfanhauser (Ref. 1:
Galvanotechnik, Leipzig, 1949), N.P. Lapin et al (Ref. 2: Zh.
prikl. khimii, 9, 1260, 1936), G.S. Vozdvizhenskiy (Ref. 3: Zh.
prikl. khimii, 20, 817, 1947) and many other scientists. But cer-
tain problems -- the friability of shiny nickel coatings, their
yellow color, the nickel-plating of small objects -- still merit
further consideration, so the authors carried out research on an
electrolyte for preparing shiny nickel coatings in rocking-baths
with the aim of recommending its general industrial application.

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S/080/60/033/012/021/024
D209/D305

Shiny nickel-plating of ...

The electrolyte composition and operating conditions are as fol-
lows: 200 g/l. $NiSO_4$ ° $7H_2O$, 150 g/l, Na_2SO_4 ° 10 H_2O, 30 g/l,
H_3BO_3, 15 g/l, NaCl, 5 g/l, NaF, 0.05 - 0.08 g/l $CdSO_4$ or 0.045 -
0.06 g/l $CdCl_2$; D_k = 0.6 - 0.7 A/dm^2, D_{vol} = 0.2 - 0.3 A/l, pH =
= 5.2 - 5.8, T = 18 - 25°. The brightness and friability of the
nickel deposit are controlled by the amount of added cadmium, by
the purity of the electrolyte, whose content of Fe^+, Zn^{2+}, Pb^{2+}
and Cu^{2+} should not exceed 0.05, 0.02, 0.0001 and 0.02 g/l respec-
tively, and by the periodic adjustment of the operating conditions.
The full amount of brightener is added twice at an interval of 30 -
40 minutes in the plating of uncurved articles. On becoming comple-
tely shiny they are removed from the bath and dried in a centrifuge
and electric furnace after washing in cold water. Overexposure
gives rise to the increased friability and diminished brightness of
the plated objects, and the authors note that the luster of nickel
is a function of the time of immersion in the bath. In the case of

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25662
S/080/60/033/012/021/024
D209/D305

Shiny nickel-plating of ...

curved objects cadmium is added in three or four separate portions,
the interval between the first and second increments being 30 - 40
minutes and then in accordance with the degree of brightening of
their surfaces. Flat items requir. the full calculated amount of
brightener, but this is decreased to the lower limit, or by 30 - 40
%, for cylindrical and spherical articles. The amount of cadmium
is increased by 10 - 15 % when plating quite flat, uncurved pro-
ducts. The authors propose a special procedure in the case of con-
tinuously-operating galvanic plant and they also assert that the
periodicity of working-up the bath depends on the volume of this
latter, the weight of the plated objects and on the ultimate purpo-
se of the resultant products. There are 1 figure and 4 Soviet-bloc
references.

SUBMITTED: April 4, 1960

Card 3/3

LARINA, Mariya Nikolayevna; TRUBNIK, Nikolay Vasil'yevich; ZHELNOV,
Veniamin Petrovich; GOLOVANOV, I.I., retsenzent; PESKOVA, L.N.,
red.; VERINA, G.P., tekhn. red.

[Production and financial plan and business accounting of a
power supply section] Proizvodstvenno-finansovyi plan i kho-
ziaistvennyi raschet uchastka energosnabzheniia. Moskva, Vses.
izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961.
106 p.   (MIRA 15:1)
       (Railroad—Electrification—Finance)

1. VERDEREVSKIY, D.: LUKASHEVICH, P.: LEONT'YEVA, N.: TRUBNIKOV, A.

2. USSR (600)

4. Cottonseed

7. New sulfuric acid-mechanical method of removing lint from cotton seeds to be swon. Khlopkovodstvo, no. 12, 1952.

9. Monthly List of Russian Accessions, Library of Congress, ___April___ 1953, Uncl.

Cand

TRUBNIKOV, A. B.: Master Agric Sci (diss) -- "Centralized treatment of cotton seed before sowing, using the sulfuric-acid method to delint". Leningrad, 1958. 22 pp (All-Union Order of Lenin Acad Agric Sci im V. I. Lenin, All-Union Sci Res Inst of Plant Protection), 150 copies (KL, No 6, 1959, 139)

TRUBNIKOV, A.I., podpolkovnik med.sluzhby (Perovo, Moskovskoy oblasti, ul. Proletarskaya, d.76 kv. 3)

Intraosseous anesthesia in osteosynthesis of lower leg fractures. Nov.khir.arkh. no.1:55-56 Ja-F '58 (MIRA 11:11)

1. Kafedra klinicheskoy i voyenno-polevoy khirurgii (nachal'nik meditsinskoy sluzhby A.S. Rovnov) voyennogo fakul'teta pri TSentral'nom institute usovershenstvovaniya vrachey.
(LEG--FRACTURES)
(ANESTHESIA)

HIROTVORTSEV, Yu.K., polkovnik meditsinskoy sluzhby v otstavke;
TRUSHIKOV, A.I., polkovnik meditsinskoy sluzhby

Use of exercise therapy in the compound treatment of patients with burns. Voen.-med. zhur. no.3:43-46 '65. (MIRA 18:11)

TRUBNIKOV, A. I., Cand of Med Sci — (diss) "Treatment of Closed Fractures of the Knee,"

Moscow, 1959, 13 pp (1st Moscow Medical Institute im I. M. Sechenov)

(KL, 2-60, 117)

TRUBNIKOV, A.I.

Apparatus for insertion of a metal nail in osteosynthesis of leg bones. A.I. Trubnikov. Ortop.travm i protez 19 no.2:58-59

(MIRA 11:5)

Mr-Ap '58

1. Iz kafedry khirurgii (nach. - prof. A.S. Rovnov) TSentral'nogo instituta usovershenstvovaniya vrachey.

(SURGICAL INSTRUMENTS AND APPARATUS)

(LEG--FRACTURE)

SOV/177-58-7-25/28

17(1)

'AUTHOR: Trubnikov, A.I., Lieutenant-Colonel of the Medical Corps

TITLE: Treatment of Patients With Closed Diaphysial Fractures of the Tibia

PERIODICAL: Voyenno-meditsinskiy zhurnal, 1958, Nr 7, pp 90-93 (USSR)

ABSTRACT: The author gives a detailed report on his observations of diaphysial fractures treated with different methods, including plaster dressing, sceletal traction and osteo- synthesis by means of a metal pin of the TsITO. He sums up the results of his investigations as follows: 1) Remote results of treating patients with tibial fractures show that in plaster dressing a displace- ment of the fragments and an angular curvature of the axis of the extremity may develop. For this reason, a dressing in fresh tibial fractures is not advisable but in transverse fractures without displacement or

Card 1/2

SOV/177-58-7-25/28

'Treatment of Patients With Closed Diaphysial Fractures of the
Tibia

with unimportant displacement and if there are no
oedema and hematoma. In fractures with displaced
fragments as well as in considerable hematoma and
oedema of the extremity a sceletal traction is in-
dicated. 2) An intraosteal fixation of the frag-
ments in diaphysial fractures by a metal pin gives
best results. The operation can be performed pain-
lessly under intraosteal narcosis. 3) The duration
of incapacity for work amounts to 4.r months in
fractures of the two tibial bones with application
of a plaster dressing, 4.5 months with application
of a sceletal traction and 4 months in case osteo-
synthesis is performed.

Card 2/2

TRUBNIKOV, A.I.

Simple guide for the insertion of a Kirschner wire into bone in skeletal traction. Ortop.travm. i protez. 19 no.4:45-46 Jl-Ag '58 (MIRA 11:11)

1. Iz kafedry khirurgii (nach. - prof. A.S. Rovnov) TSentral'nogo instituta usovershenstvovaniya vrachey.
 (FRACTURES,
  fixation with Kirschner wire, simple device for insertion
  (Rus))

TRUBNIKOV, A.I., podpolkovnik med.sluzhby

Treatment of closed fractures of the diaphysis of the shin. Voen.-
med.zhur. no.7:90-93 Л '58.   (MIRA 12:12)
          (LEG, fract.
              closed, ther., remote results (Rus))

TRUBNIKOV, B. A.

OSOVETS, S. M., SAGDEYEV, R. Z., TRUBNIKOV, B. A., SHAFRANOV, V. D., VOLKOV, T. F.,
RUDAKOV, L. I.

"Interaction Between Alternating Electromagnetic Fields and High-Temperature Plasma."

paper to be presented at 2nd UN Intl. Conf. on thepeaceful uses of Atomic Energy,
Geneva, 1 - 13 Sep 58.

TRUBNIKOV, B. A.

"Plasma Radiation in A Magnetic Field", by B. A. Trubnikov, V. S. Kudryavtsev

Report presented at 2nd UN Atoms-for-Peace Conference, Geneva, 9-13 Sept 1958.

TRUBNIKOV, V. A.

"The Instability of a Plasma Cylinder."   (Work - 1952);   pp. 289-298.

"The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. I.
1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

TRUBNIKOV, B.A.

21(7)   p 3   PHASE I BOOK EXPLOITATION   SOV/1243

Akademiya nauk SSSR. Institut atomnoy energii

Fizika plazmy i problema upravlyayemykh termoyadernykh reaktsiy,
     t. III. (Plasma Physics and the Problem of Controlled
     Thermonuclear Reactions, v. 3) [Moscow] Izd-vo AN SSSR,
     1958.. 362 p. 3,000 copies printed.

Resp. Ed.: Leontovich, M.A., Academician.

PURPOSE: This collection contains previously unpublished work of
     members of the Institut atomnoy energii (Institute of Atomic
     Energy) of the Academy of Sciences of the USSR. It is intended
     for scientists interested in this field.

COVERAGE: This book is the third of four volumes of previously
     unpublished work of the members of the Institute of Atomic
     Energy during the period 1951-58. The exploitation cards on the
     other volumes in this series have been released under the
     numbers 1241, 1242, and 1244.

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Plasma Physics and the Problem   (Cont,)   SOV/1243

TABLE OF CONTENTS:

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Plasma Physics and the Problem (Cont.)   SOV/1243

Card 3/6

TRUBNIKOV, B. A.

"A Possible Mechanism of the Neutron Effect at Massive Pulse Discharges in Deuterium," (Work done in 1958); pp. 87-97.
"The Relation Between the Coefficients of Absorption and Emission of Plasma Radiation Present in a Magnetic Field." (Work carried out in 1957); pp. 305-308.
"The Behavior of Plasma in a Rapidly Varying Magnetic Field." (Work carried out in 1957 and partially reworked in preparation for printing in 1958); pp. 309-330.

X "The Physics of Plasmas; Problems of Controlled Thermonuclear Reactions." Vol. IV.
1958, published by Inst. Atomic Energy, Acad. Sci. USSR.
resp. ed. M. A. Leontovich, editorial work V. I. Kogan.

Available in Library.

SOV/56-34-5 52/61

AUTHOR: Trubnikov, B. A.

TITLE: Tracing Back the Kinetic Equation to the Differential Form
              in the Case of Coulomb Collisions (Privedeniye kineticheskogo
              uravneniya v sluchaye kulonovskikh stolknoveniy k differentsial'-
              nomu vidu)

ABSTRACT: In the first section the kinetic equations for the case of
              Coulomb interactions are written down for the distribution
              functions $f_\alpha(t, \vec{r}, \vec{v})$ of the particles of a completely ionized
              plasma(α = e or i, respectively, for electrons or ions, respec-
              tively). In this paper is shown that the specific structure of
              the integrals in the expression for the flow permits the intro-
              duction of "potential functions" as new unknowns. The kinetic
              integro-differential equations then become reduced to pure
              differential equations. An outline of the computation process
              is given. The differential equations are written down explicitly
              for the case of the "potential functions" and also specialized

Card 1/2

Tracing Back the Kinetic Equation to the Differential   SOV/56-34-5- 2/61
Form in the Case of Coulomb Collisions

for the special case of a "moving" Maxwell (Maksvell) distri-
bution. An asymptotic of the potential equations is written down
as well. Although the distribution differs only slightly from
the Maxwell distribution all equations can be linearized. In
some special cases (for example if the distributions depend
only on the absolute value of the velocity) the order of the
obtained differential equations can be reduced. There is 1
reference   which is Soviet.

ASSOCIATION: Moskovskiy inzhenerno-fizicheskiy institut(Moscow Institute of
Engineering and Physics)

SUBMITTED: February 20, 1958

1. Electrons--Mathematical analysis

Card 2/2

20-118-5-18/59

AUTHOR: Trubnikov, B. A.

TITLE: Radiation of Plasma in a Magnetic Field (Izlucheniye plazmy
               v magnitnom pole)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol. 118, Nr 5, pp.913-916
               (USSR)

ABSTRACT: The present paper investigates the radiation of a plasma
               caused by the rotation of electrons in an homogeneous mag-
               netic field. As is well known, the spectrum of the radiation
               of a fast electron moving in a magnetic field consists of se-
               parate lines, the harmonics. The author here has in mind the
               application to the radioastronomy of the galaxy and of the
               sun and restricts to the high harmonics of the spectrum let-
               ting the real parts of the index of refraction of the medium
               being equal to unity. This is obviously permissible for high
               frequencies. The distribution of electrons on momenta is
               assumed to be isotropic. The distribution of the radiation
               intensity is here written down explicitly for the case of
               motion on a helix. One of the terms occurring in this expres-

Card 1/3

Radiation of Plasma in a Magnetic Field

sion corresponds to the emission of linearly polarized waves with $\vec{E}_\sim \parallel H_0$ ("ordinary wave"). The second term describes the emission of waves with $E_\sim \perp H_0$ ("extraordinary wave"). These formulae are then averaged over the directions of the velo- cities of electrons. For these formulae approximation expres- sions are then written down, holding for $n \gg 1$. Subsequent- ly the author investigates various deductions of the here deduced formulae. The emission of the high harmonics is only of interest in plasmas of great dimensions at nonrelativistic and weakly relativistic temperatures, when the lower har- monics of the system are forbidden. Such conditions for example exist in the sun's corona. Then a formula is given for the radiation of a plasma layer of the thickness a. In the case of the sun's corona about the first four harmonics are forbidden. The spectrum can be considered continuous on certain circumstances given here, when the energy of the electrons lies in the ultrarelativistic range. Formulae are given for the emission power per unit volume and for the degree of polarization. This degree of polarization, besides, is connected with the type of spectrum. Finally the existence of polarization is taken into consideration. Applying the

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20-118-5-18/59

Radiation of Plasma in a Magnetic Field

principle of detailed equilibrium, a formula for the absorp-
tion coefficient is given, which then is specialized for the
case of small energy of the quanta as well as for the case
of ultrarelativistic electrons. A formula is also, written
down for the spectral distribution of a layer. This spectrum
begins to decrease rapidly on a reduction of frequency,
the "optical thickness" exceeding unity or being equal to it.
By this fact it is obviously possible to explain the behavior
of the spectrum of the strong source of cosmic radiofrequency
radiation of Cassiopeia A in the frequency range of 20 mega-
cycles. There are 4 references, 2 of which are Soviet.

PRESENTED: September 10, 1957, by M. A. Leontovich, Member, Academy of
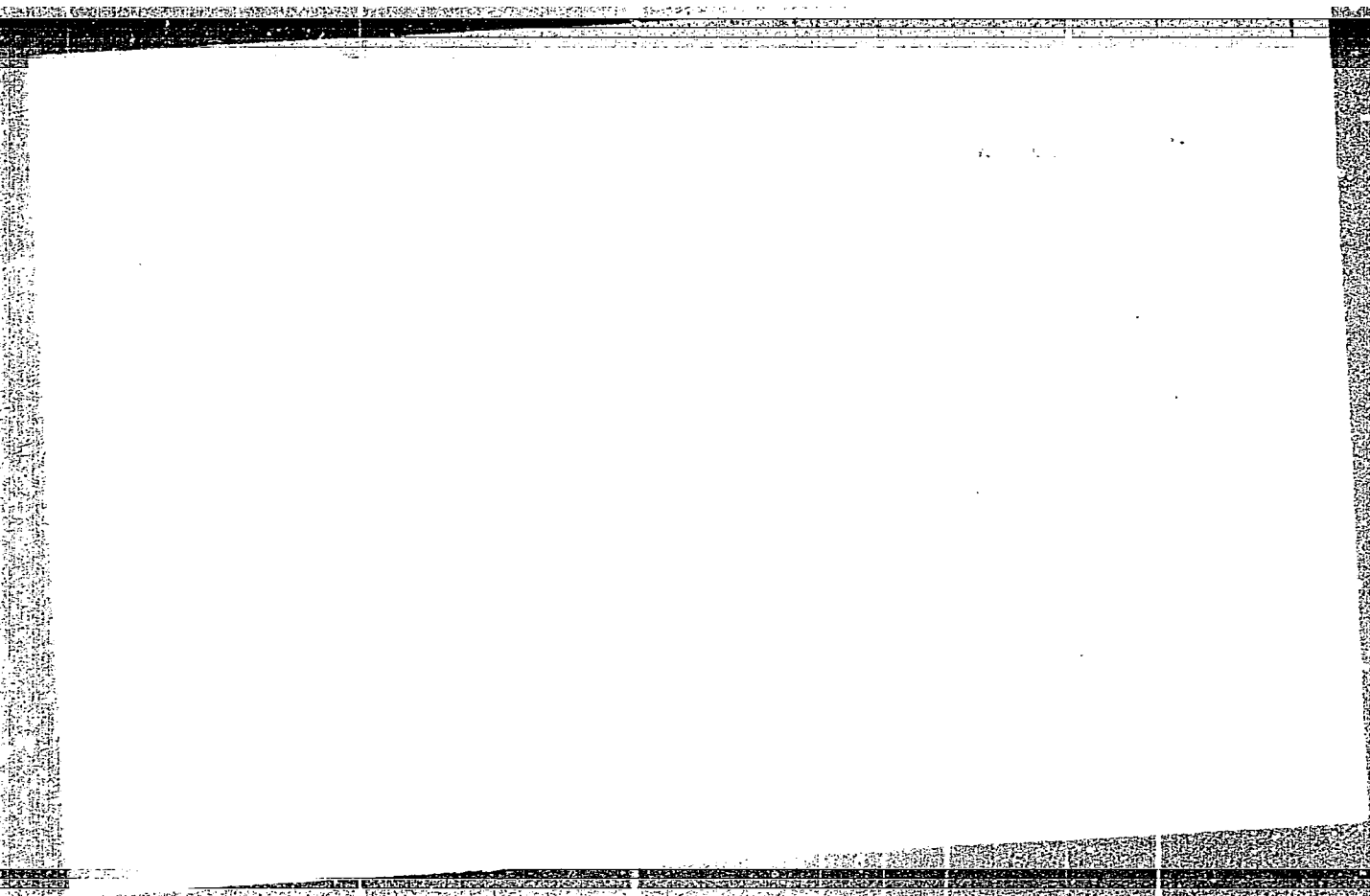Sciences, USSR

SUBMITTED: July 18, 1957

Card 3/3

TRUBNIKOV, B. A.   Cand Phys-Math Sci -- (diss) "Magnetic emission of high-temperature plasma." Mos, 1959. 7 pp (Min of Higher and Secondary Specialized Education RSFSR. Mos, Engineering Phys Inst), 100 copies (KL, 49-59, 137)

L 13955-66   EWT(1)/ETC(F)/EPF(n)-2/EWG(m)   IJP(c)   DM/AT

ACC NR: AP6001690

SOURCE CODE: UR/0089/65/019/005/0415/0420

AUTHOR: Trubnikov, B. A.

ORG: none

TITLE: The stability of plasma in a "probkotron" with stabilizing rods

SOURCE: Atomnaya energiya, v. 19, no. 5, 1965, 415-420

TOPIC TAGS: plasma stability, magnetic mirror machine, plasma generator, plasma research

ABSTRACT: The criterion for the stability of plasma, $\delta \int dl/B < 0$, is extended to the case of an anisotropic plasma (the parallel component of the plasma pressure $P_\parallel$ is different from the corresponding transverse component $P_\perp$) in axially asymmetric fields. The author derives the stability conditions for "probkotrons" with stabilizing rods and compares the results with experimental data gathered on the PR-5 device (Yu. T. Bayborodov et al., Atomnaya energiya, 14, 443, 1963) which had a stopping ratio $B_{max}/B_{min} = 1.7$ and six rods. Assuming that the plasma extends all the way to the magnetic mirror, using the parabolic approximation, and assuming a maxwellian distribution with a cut-out cone, the results show very good agreement. Author thanks V. G. Tel'kovskiy for the discussion of results. Orig. art. has: 43 formulas and 3 figures.

SUB CODE: 20/ SUBM DATE: 10Mar65/ ORIG REF: 002/ OTH REF: 001
UDC: 533.9

Card   1/1

ACC NR: AP 700. '2:   SOURCE CODE: UR/0048/66/030/012/1917/1920

AUTHOR: Yavlinskiy, Yu.N.; Trubnikov, B.A.; Yelesin,V.Y.

ORG: Atomic Energy Institute im. I.V.Kurchatov (Institut atomnoy energii)

TITLE: Neutralization of protons traversing thin metal foils /Report, Twelfth All-Union Conference on the Physical Fundamentals of Cathode Electronics held at Leningrad, 22-26 Oct. 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 12, 1966, 1917-1920

TOPIC TAGS: proton beam, recombination, metal film, theoretic physics

ABSTRACT: This paper is devoted to a theoretical explanation of the experimental results of J.A.Phillips (Phys.Rev.,97, No.2, 404 (1955)), who measured the relative numbers of hydrogen atoms and negative ions in approximately 30 to 200 keV proton beams after the beams had traversed metal foils. Phillips' experiments showed that the relative number of atoms and negative ions in the beam was independent of the thickness of the foil and was determined by the last few atomic layers. After a brief discussion it is concluded that "tunnel" recombination cannot have been significant, and it is hypothesized that the recombination took place by triple collisions in the surface layer where the electron density is enhanced by the effect of the electron pressure in the body of the metal. The triple recombination coefficient is calculated in terms of the mobility with the aid of the classical theory of Langevin. The

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ACC NR: AP 7001721

mobility is calculated for two limiting cases of low and high proton velocity, and
there result two formulas for the recombination probability as a function of the
proton energy, one of which is valid at low energies, and one, at high energies. The
experiments were performed at proton energies for which neither of the formulas is
valid; the experimental curve lies between the two rather widely separated theoretical
curves, however, and this is regarded as qualitative confirmation of the theory. The
authors thank A.A.Vedenov and V.G.Tel'kovskiy for discussions. Orig. art. has:
20 formulas and 1 figure.

SUB CODE: 20   SUBM DATE: None   ORIG. REF: 006   OTH REF: 004

4,

Card   2/2

TRUBNIKOV, B.A.; YAVLINSKIY, Yu.N.

Virtual levels for a screened Coulomb potential. Zhur. eksp.
i teor. fiz. 48 no.6:1618-1619 Je '65.   (MIRA 18:7)

TRUBNIKOV, B.A.; YELESIN, V.F.

Quantum correlation functions in a Maxvellian plasma. Zhur. eksp.
i teor. fiz. 47 no.4:1279-1290 O '64.

(MIRA 18:1)

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...manner the ...

Larkin

S/3041/63/000/001/0098/0182

ACCESSION NR: AT4035150

AUTHOR: Trubnikov, B. A.

TITLE: Particle collisions in a fully ionized plasma

SOURCE: Voprosy* teorii plazmy*, no. 1, 1963, 98-182

TOPIC TAGS: particle collision, plasma physics, ionized plasma, kinetic gas theory, Coulomb scattering, high temperature plasma

ABSTRACT: The simplest kinetic effects due to collisions between particles in a fully ionized homogeneous gas are considered. A new approach is provided in the method by making systematic use of special potential functions and electrostatic analogies, so as to simplify the notation of many formulas and sometimes facilitating the derivation of the end results. The three chapters of the article are devoted respectively to the motion of trial particles in a plasma, a non-rigorous derivation of the kinetic equation, and an

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ACCESSION NR: AT4035150

analysis of some simplest kinetic phenomena in plasma. The section
headings are as follows: I. Trial particles in a plasma. 1. "Fric-
tion" force in scattering in a Coulomb field. 2. "Coulomb logarithm"
and role of long-range flights. 3. Average force acting on particle
in a plasma. 4. Trial particles in a plasma. 5. Rate of change of
momenta. 6. Features of Coulomb interactions. Introduction of po-
tential functions. 7. Use of scattering cross sections. II. Ki-
netic equation for particles with Coulomb interaction. 8. Motion of
particles in phase space. 9. Expressions for flux. 10. Dynamic
friction force and diffusion tensor. 11. Kinetic equation in the
case of Coulomb interaction. 12. Kinetic equation with allowance
for polarization of the medium. III. Kinetic phenomena in high-
temperature plasma. 13. Trial particle in a medium consisting of
infinitely heavy field particles at rest. 14. Solution of kinetic
equation for the preceding case. "Simplest relaxation time." 15.
Spherically-symmetrical distribution of field particles. 16. Phe-
nomenon of "runaway electrons." 17. Maxwellian distribution of

Card   2/3

ACCESSION NR: AT4035150

field particles. Relaxation times. 18. Plane flux in uniform plasma. 19. Energy transfer. 20. Establishment of equilibrium in a two-component plasma. Orig. art. has: 10 figures, 364 formulas, and 5 tables.

ASSOCIATION: None

SUBMITTED: 00   DATE ACQ: 07May64   ENCL: 00 .

SUB CODE: ME, NP   NR REF SOV: 013   OTHER: 010

Card   3/3

S/0058/63/000/012/G017/G017

ACCESSION NR: AR4014753

SOURCE: RZh. Fizika, Abs. 12G119

AUTHOR: Trubnikov, B. A.

TITLE: Particle collisions in a fully ionized plasma

CITED SOURCE: Sb. Vopr. teorii plazmy*. Vy*p. 1. M., Gosatomizdat, 1963, 98-182

TOPIC TAGS: plasma, homogeneous plasma, fully ionized plasma, fully ionized gas, particle collisions in plasma, potential function, electrostatic analogy, kinetic equation, transport equation

TRANSLATION: The simplest kinetic effects due to particle colli- sions in a fully ionized homogeneous gas are considered. The author strives for maximum simplicity and clarity of exposition. A rela- tive novelty from the methodological point of view is the systematic

Card 1/2

'ACCESSION NR: AR4014753

use of potential functions and electrostatic analogies, simplifying
the writing down of many formulas and sometimes facilitating the de-
termination of the end results. The first chapter considers in de-
tail the motion of test particles in a plasma, the second presents
a non-rigorous derivation of the kinetic equation, and the third
has an analysis of some of the simplest kinetic phenomena in a plas-
ma.

DATE ACQ: 24Jan64   SUB CODE: PH   ENCL: 00

Card   2/2

TRuBNIKoU, B.N.

3(7)   PHASE I BOOK EXPLOITATION   SOV/3030

Leningrad. Tsentral'naya aerologicheskaya observatoriya

Nekotoryye voprosy fiziki oblakov (Some Problems in Cloud Physics)
Moscow, Gidrometeoizdat (otd.) 1959. 94 p. (Series: Its: Trudy,
vyp. 30) 650 copies printed.

Sponsoring Agency: Glavnoye upravleniye gidrometeorologicheskoy sluzhby.

Ed. (title page): A.M. Borovikova; Ed. (inside book): N.I. Sorokina;
Tech. Ed.: T. Zemtsova.

PURPOSE: This collection of articles is intended for meteorologists and geophys-
icists.

COVERAGE: This is a collection of seven articles on problems in cloud physics.
All articles were written between 1955-1958 but their publication was withheld for
technical reasons. Individual articles discuss the origin of the subfrontal
section in warm front cloud systems, radar scattering by non-spherical particles,
unipolar charges in aerosols and atmospheric electricity, and the conditions of
ice crystal growth __ __ __. __ __ __ __ __ __ __ __
surveying clouds is described, and a compound for obtaining replicas __ __
elements discussed. References accompany individual articles.

TABLE OF CONTENTS:

AVAILABLE: Library of Congress   3

S/155/59/000/02/033/036

AUTHOR: Trubnikov, B.N.

TITLE: On the Question Concerning the Consideration of the Virtual Friction in the Three-dimensional Problem on the Influence of the Orography on the Air Current ν

PERIODICAL: Nauchnyye doklady vysshey shkoly, Fiziko-matematicheskiye nauki, 1959, No. 2, pp. 166-171

TEXT: The author considers the influence of massives on air currents under consideration of the friction and of Coriolis forces. Under the assumption that the density ς only depends on the height, that the coefficient of turbulence ν is everywhere constant and that the profiles of the mountains can be approximated by sufficiently smooth lines, the author mathematically formulates the problem and solves it with the aid of complex methods. For the wind components he gives extraordinarily long and complicated explicit expressions.
The author thanks Professor A.F. Dyubyuk for the guidance of the paper.
There are 3 Soviet references.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: February 20, 1959

Card 1/1

S/155/59/000/02/034/036

AUTHOR: Trubnikov, B.N.

TITLE: The Consideration of the Rotation of the Earth in the Three-dimensional Problem of the Flow Around of an Elevation by an Air Current

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1959, No. 2, pp. 172-178

TEXT: The author investigates disturbances caused by elevations of the earth (mountains) in an air current. He assumes that temperature and pressure of the air current be variable only with the height, whereby the vertical temperature gradient is constant. The author takes into account the Coriolis forces. Utilizing the results of (Ref. 1,2,3) the author solves the system of equations for the perturbations of the streamlines, of pressure, density and temperature with the aid of Fourier methods. A discussion of the solutions shows among others : The streamlines of the fundamental motion show, already in a long distance before the mountain, an upward tendency which essentially increases under consideration of the Coriolis forces. The streamlines do not always follow the profile of the mountain ; it is possible that in certain heights the tangent of the angle of gradient to the direction of the undisturbed

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The Consideration of the Rotation of the   S/155/59/000/02/034/036
Earth in the Three-dimensional Problem of the Flow Around of an Elevation
by an Air Current

motion becomes negative. In the flow there arise waves, the length of
which depend on the stratification of the atmosphere, on the wind velocity
and on the height.
The author thanks Professor A.F. Dyubyuk for advices.
There are 5 references : 1 Soviet, 1 French, 1 English and 2 American.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova)
              (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: December 26, 1958

Card 2/2

S/055/59/000/04/007/026
B014/B005

AUTHOR: Trubnikov, B. N.

TITLE: Calculating the Vertical Inhomogeneity of an Air Flow Flowing Round Hills

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya matematiki, mekhaniki, astronomii, fiziki, khimii, 1959, Nr 4, pp 79 - 84 (USSR)

ABSTRACT: The present paper deals with the spatial-steady motion of an air flow, considering the change of wind velocity with altitude. The differential equation system (1) for the motion holds for the case in which only the reduction of air density with altitude is con- sidered by the equation of continuity. The compressibility in horizontal direction, the rotation of the earth, turbulent viscosity, heat convection, emission, and moisture have been neglected in setting up this system. The solution of this system is considered very difficult; for simplification it is assumed that wind, pressure, density, and temperature only depend on the vertical. Further it is assumed that the altitude of mountains be small as compared with the altitude at which disturbances occur, and that the system may be linearized for small disturbances. On these restricting assumptions, linearized for small disturbances.

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Calculating the Vertical Inhomogeneity of an Air Flow   S/055/59/000/04/0C7/026
Flowing Round Hills   B014/B005

system (2) is obtained from (1) which can be written down in the form of system (5). From this system, differential equation (7) for the vertical shift of lines of flow is derived from which solution (19) for the vertical shift of lines of flow is obtained, integral (18) having been calculated by Filon's method. In the discussion of formulas (18) and (19), it is shown that waves with longer wave length of the leeward waves develop in layers with a positive vertical velocity gradient. Shorter leeward waves develop with negative gradients. The author thanks Professor A. F. Dyubyuk for his assistance in the work. There are 9 references, 3 of which are Soviet.

ASSOCIATION: Kafedra fiziki atmosfery (Chair of Physics of the Atmosphere)

SUBMITTED: January 27, 1959

Card 2/2

TRUBNIKOV, B.N.

Calculation of the vertical inhomogeneity of an air stream flowing around an elevation. Vest.Mosk.un.Ser.mat., mekh., astron.fiz., khim. 14 no.4:79-84 '59. (MIRA 13:8)

1. Kafedra fiziki atmosfery Moskovskogo universiteta.
(Winds) (Aerodynamics)

KORNEYEV, A.N.; TRUBNIKOV, B.N.

Impression method of studying cloud elements. Trudy TSAO no.30:
81-83 '59.   (MIRA 12:9)
              (Clouds) (Meteorological research)

/0.2000
3.9000
3 (7), 10 (6)

67256

AUTHOR: Trubnikov, B. N.   SOV/20-129-4-18/68

TITLE: The Three-dimensional Problem of the Flow of an Upwards
               Unbounded Air Current Round an Elevation

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 4, pp 781 - 784
               (USSR)

ABSTRACT: Short reference is first made to several earlier papers dealing
               with this subject. Interest is aroused by the solution for an
               atmosphere that is unbounded as to height and for an elevation
               of arbitrary shape. The author proceeds from the principal system
               of the equations of hydrodynamics and from the thermodynamics of
               a perfect liquid on the assumption of an adiabatic and steady

               process: $uu_x + vu_y + wu_z = -\frac{1}{\varrho} P_x + lv$, $uv_x + vv_y + wv_z = -\frac{1}{\varrho} P_y - lu$,

               $uw_x + vw_y + ww_z = -\frac{1}{\varrho} P_z - g$, $(u\varrho)_x + (v\varrho)_y + (w\varrho)_z = 0$,

               $(1/\varkappa RT)(uP_x + vP_y + wP_z) - (u\varrho_x + v\varrho_y + w\varrho_z) = 0$, $P = \varrho RT$. Here u,v,w de-
               note the components of wind velocity; P,Q - air pressure and air
               density; T - temperature, $l = 2\Omega \sin \psi$ the Coriolis parameter
Card 1/3   (Ω - the angular velocity of the rotation of the Earth, ψ - the

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SOV/20-129-4-18/68

The Three-dimensional Problem of the Flow of an Upwards Unbounded Air Current Round an Elevation

latitude of the place), R - the gas constant for air, $\varkappa = c_p/c_v$; g - gravitational acceleration. If the elevation disturbs the main horizontal movement in the atmosphere only little, the solution may be set up in the form $u = \bar{u} + u'$, $v = v'$, $w = w'$, $P = \bar{P} + P'$, $Q = \bar{Q} + Q'$, $T = \bar{T} + T'$. Here $\bar{u}$ denotes the vector in the atmosphere in infinity on the luff of the elevation (it is constant with respect to the amount); $\bar{P}$, $\bar{Q}$, $\bar{T}$ - pressure, density, and temperature in this undisturbed main flow. These quantities, by the way, depend only on the height z. The strokes denote the corresponding quantities for the minor disturbances caused by the elevation. These solution ansatzes are then substituted into the equations written down above, after which this systems of equations is linearized. The equation linearized in this manner is then solved by the operation method by using a bilateral Laplace transformation. Carrying out the corresponding calculations is followed step by step. The solutions found are then explicitly written down. Thus, expressions are found for the rise of the streamlines on the luff far before the elevation,

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67256

The Three-dimensional Problem of the Flow of an Upwards   SOV/20-129-4-18/68
Unbounded Air Current Round an Elevation

the system of the waves on the off side of the wind, and the
exponential disturbance of the streamlines dying down in
infinity. It is further said that the author finally thanks
Professor Dyubyuk for his useful advice and for discussing re-
sults. There are 5 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: July 27, 1959, by V. V. Shuleykin, Academician

SUBMITTED: April 9, 1959

Card 3/3

TRUBNIKOV, B. N., Cand Phys-Math Sci (diss) -- "Orographic effects on air

streams". Moscow, 1960. 6 pp (Moscow State U im M. V. Lomonosov, Phys Faculty),

150 copies (KL, No 14, 1960, 126)

TRUBNIKOV, B.N.

Vertical currents during a breeze over a flat shore. Izv.
AN SSSR. Ser. geofiz. no. 4:337-431 F '61. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
(Winds)

TRUBNIKOV, B.N.

Theory of free convection over the plane surface of the earth.
Izv. AN SSSR. Ser. geofiz. no.8:1235-1240 Ag '61.   (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
                    (Atmospheric temperature)

DYUBYUK, A.F.; BIBIKOVA, T.N.; TRUBNIKOV, B.N.

Effect of mountainous topography and the sea on the formation
of summer clouds over the southern Crimea. Trudy UkrNIGMI
no.26:74-85 '61.   (MIRA 15:2)
                   (Crimea--Clouds)

DYUBYUK, A.F.; BIBIKOVA, T.N.; TRUBNIKOV, B.N.

Cloud characteristics for typical summer synoptical situations on the Crimean Peninsula. Trudy UkrNIGMI no.26:86-94 '61.

(MIRA 15:2)

(Crimea--Clouds)

BIBIKOVA, T.N.; DYUBYUK, A.F.; TRUBNIKOV, B.N.

Macroscopic changes in orographic clouds. Trudy TSAO no.39:34-91 '62.
(MIRA 15:6)

(Clouds),

S/035/62/000/009/007/060
A001/A101

AUTHORS: Dyubyuk, A. F., Petruchuk, I. I., Trubnikov, B. N.

TITLE: Study of cirri and cumuli by means of stereophotogrammetrical
             ground survey with Rb-10/18 devices located on ground

PERIODICAL: Referativnyy zhurnal, Astronomiya i Geodeziya, no. 9, 1962, 21,
             abstract 9G136 ("Tr. Tsentr. aerol. observ.", 1962, no. 40, 92 - 109)

TEXT: The authors describe the design of an aerial camera with a stand and
a synchronization system for two cameras with controlling devices. They ensure the
whole pulsed operational cycle with pauses between exposures from 8 to 40 sec and
divergences in the time of shutter functioning not exceeding 0.1 sec. The authors
describe the normal case of ground stereophotogrammetric survey with aerial cameras
with sight field angle close to 90°, a 1,631-m long base and processing of stereo-
pairs on a 1818 model Zeiss stereocomparator. The results of work are presented
which was performed by an expedition of the Physical Division of MGU in 1960 in
studying clouds; measurement errors amounted to 2 - 3% in determinations of cloud
altitude and less than 1% in determinations of cloud horizontal coordinates. It is
concluded that employment of the method described makes it possible to determine
spatial distribution of clouds, their development, displacements, deformation and
Card 1/2

Study of cirri and cumuli by means of...

localization relative to relief. There are 8 references.

S/035/62/000/009/0.../...
A001/A101

I. Mityachkin

[Abstracter's note: Complete translation]

Card 2/2

DYUBYUK, A.F.; BIBIKOVA, T.N.; TRUBNIKOV, B.N.

Some physical properties of orographic alto-cumulus lenticular
clouds. Meteor. i gidrol. no.4:3-9 Ap '63.   (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet, fizicheskiy fakul'tet.
(Clouds)

ACCESSION NR: AT4011398   S/2789/63/000/047/0085/0095

AUTHOR: Dyubyuk, A. F.; Bibikova, T. N.; Trubnikov, B. N.

TITLE: Conditions for the formation of altocumulus lenticularis clouds in the Crimea

SOURCE: Tsentral'naya aerologicheskaya observatoriya. Trudy*, no. 47, 1963. Fizika oblakov, 85-95

TOPIC TAGS: meteorology, cloud, aerology, altocumulus cloud, lenticular cloud, aerial survey, photogrammetry, photogrammetric survey

ABSTRACT: An expedition was organized by the Kafedra fiziki atmosfery MGU (Department of Atmospheric Physics of Moscow State University) in 1957-1960 to study the conditions under which altocumulus lenticularis clouds are formed in the coastal and mountainous regions of the Crimea. The mission included a photogrammetric survey of clouds; a photographic survey of clouds with a spherical mirror, revealing the cloud cover throughout the sky; a panoramic cloud survey; and slow-motion movies of cloud movement and development. Aerial observations were supplemented by standard radiosonde and surface observations. A series of individual cases is described in detail, typical of the 51 cases studied. The synoptic situation and orographic conditions are emphasized. It is explained why such
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ACCESSION NR: AT4011398

clouds are a frequent occurrence in the studied region although physical and geo-
morphological conditions should not favor their development. Orig. art. has: 4
figures and 3 tables.

ASSOCIATION: TSENTRAL'NAYA AEROLOGICHESKAYA OBSERVATORIYA (Central Aerological
Observatory)

SUBMITTED: 00   DATE ACQ: 24Feb64   ENCL: 00

SUB CODE: AS   NO REF SOV: 002   OTHER: 000

Card   2/2

ACCESSION NR: AP4023379

AUTHOR: Trubnikov, B. N.

TITLE: Investigation of air currents above mountainous regions with consideration of the thermal inhomogeneity of the underlying surface

SOURCE: AN SSSR. Izv. Seriya geofizicheskaya, no. 2, 1964, 293-301

TOPIC TAGS: air current, mountain, mountainous region, thermal inhomogeneity, convection current, advection, leeward current, stable atmosphere, unstable atmosphere, atmosphere

ABSTRACT: From hydrodynamical equations the author derives an expression for the wind profile:

$$\left(\frac{d^2u}{dz^2}\right)^2 \Big/ g\,\frac{\gamma-\gamma_a}{\theta} < 4\rho^2.$$

where θ is the statistical value of temperature, $\gamma = -d\theta/dz$, γ_a is the dry

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ACCESSION NR: AP4023379

adiabatic gradient, and $\rho^2 = m^2 + n^2$ (m and n being the wave numbers for horizontal and vertical direction). The curvature of the wind profile stabilizes atmospheric layers in agreement with this expression. In unstably stratified atmosphere, a stationary zone of upward currents is located on the heated side of the inhomogeneity of the underlying surface; downward currents are to leeward. The width of the zone of vertical currents is determined by the degree of instability and by the wind velocity. Disturbing waves may arise in a stable atmosphere not only behind mountains and thermal inhomogeneities but also behind cumulus clouds. In an unstable atmosphere, a heated mountain produces a greater current than a cold mountain. In an unstable atmosphere, the heating of a mountain decreases the amplitude of current disturbance and may lead to the disappearance of the leeward winds that had "consolidated." The heating of a plain or more or less curving underlying surface causes the appearance of jets, in an incompletely developed current, with a steep-fronted crest opposite the current. When heating is sufficient, or the mountains high enough, eddy currents (on a horizontal axis) may develop, both clockwise and counterclockwise, coinciding with the direction of air movement. The rate of displacement of these eddies or pockets exceeds the wind velocity in an unstable layer but lag behind the current in a stable layer.

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ACCESSION NR: AP4023379

The pockets are ellipsoidal in form. They are produced by advection, and they must be distinguished from eddies about a vertical axis, which may develop during free convection. "I express my deep thanks to A. F. Dyubyuk, A. Kh. Khrgian, N. Z. Pinus, S. M. Shmeter, Ye. M. Dobryshman, A. M. Borovikov, I. P. Mazin, and N. A. Titov for useful remarks and valuable advice during discussions of the work."
Orig. art. has: 1 figure and 25 formulas.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova (Moscow State University)

SUBMITTED: 28May62   DATE ACQ: 27Mar64   ENCL: 00

SUB CODE: AS   NO REF SOV: 019   OTHER: 018

Card 3/3

L 3231-66   EWT(1)/FCC/EWA(h)   GS/GW

ACCESSION NR: AT5023560

UR/0000/65/000/000/0051/0056

AUTHOR: Trubnikov, B. N.

TITLE: Using the orbital data of artificial earth satellites for determining wind velocity in the thermosphere

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 51-56

TOPIC TAGS: thermosphere, upper atmosphere, wind velocity, artificial satellite observation, satellite weather data

ABSTRACT: The author shows the possibility of using data on the orbits of artificial earth satellites to obtain information on atmospheric motion in the thermosphere. On the basis of equations of motion for artificial earth satellites taking the gravitational potential of the earth into account, it is shown that secular variations in the orbit of a satellite may be used for determining the oblateness of the earth. Therefore, if rotation of the atmosphere gives a secular component to the orbit of a satellite, it is best to study this component at the angle of

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ACCESSION NR: AT5023560

inclination of the orbit, where the potential of the earth causes only oscillations, and not at the longitude of the ascending node, where there is secular motion caused by flattening of the earth. An expression is derived which may be used for tracking secular variations in an orbit for protracted periods of time. Using this equation as a basis, a formula is derived which gives the index of circulation in the thermosphere in terms of variations in the orbital elements. Indices of circulation are calculated from this formula using orbital data from the first Soviet and American satellites cited in the literature. The results are tabulated. Using data from five American and one Soviet satellite launched in 1963, the average index of circulation is found to be -0.4. In spite of the uncertainty of the first data on wind velocity obtained from artificial earth satellites, it may be assumed that this method for wind observations is more representative than the method of using luminous cloud observations and ionospheric drifts, since the wind measurements are averaged over a rather long perigee segment and random local variations are eliminated. Orig. art. has: 2 tables and 16 formulas.   [14]

ASSOCIATION: none

SUBMITTED: 02Sep65   ENCL: 00   SUB CODE: ES,SV

NO REF SOV: 002   OTHER: 009   ATD PRESS: 4/06
Card 2/2

TRUBNIKOV, G.

Mechanization of agriculture in China. MTS 18 no.8:51-53 Ag '58
(MIRA 11:9)

1. Moskovskiy institut mekhanizatsii i elektrifikatsii sel'skogo khozyaystva.
(China--Farm mechanization)

Trubnikov, G

Laboratornyy Praktikum Po Avtotraktornym Dvigatelyam [Laboratory Course in Auto Tractor Motors] Moskva, Sel'khozgiz, 1954.
174 P. Illus., Diagrs., Tables.
"Literatura": P. [173]

N/5
743.281
.T8

ACC NR: AP6029069   SOURCE CODE: UR/0413/66/000/014/0123/0124

INVENTOR: Trubnikov, G. I.

ORG: none

TITLE: Fuel system for a diesel engine. Class 46, No. 184069

SOURCE: Izobret prom obraz tov zn, no. 14, 1966, 123-124

TOPIC TAGS: diesel engine, diesel fuel system, fuel system pump

ABSTRACT: An Author Certificate has been issued for a diesel fuel system consisting of a fuel pump with a pressure line leading to the cylinders and a carburetor with a float chamber and a fuel chamber for carrying light fuel to a suction pipe. This fuel system improves the dynamic characteristics of a diesel operating at maximum power due to the fact that its fuel channel is equipped with an electromagnetic valve controlling the fuel supply from the carburetor. Orig. art. has: 1 figure.   [SA]

SUB CODE: 21/   SUBM DATE: 06Apr65

                                         UDC: 621.436.74.038.3

Card   1/1

1. TRUBNIKOV, G.I.

2. USSR (600)

4. Gas and Oil Engines

7. Shortcomings of a book on breaking in and testing motors ("Breaking in and testing automobile and tractor motors." G.I. Trubnikov, Reviewed by A. Login). MTS 13 no. 4, 1953.

9. Monthly List of Russian Accessions, Library of Congress, ___APRIL___ 1953, Uncl.

TRUBNIKOV, Georgiy Iosifovich; BANNIKOV, S.A., nauchnyy red.;
SEREBRENNIKOVA, L.A., red.; SUSHKEVICH, V.I., tekhn.red.

[Efficient use of tractors] O proizvoditel'nom ispol'zovanii
traktorov. Moskva, Vses.uchebno-pedagog.izd-vo Trudrezervizdat,
1959. 161 p.   (MIRA 13:7)
                         (Tractors)

TRUBNIKOV, Georgiy Iosifovich

[Laboratory manual on tractor and automobile engines] Labora-
tornyi praktikum po traktornym i avtomobil'nym dvigateliam.
Izd.2. Moskva, Gos.izd-vo sel'khoz.lit-ry, 1959. 198 p.
(MIRA 13:10)

(Tractors--Engines)   (Automobiles--Engines)

TRUBNIKOV, G.R.; SIVERGIN, Yu.M.; GREBENNIKOV, B.V.

Program controlled thermostat. Prib. i tekh. eksp. 6 no.6:150-151 N-D '61. (MIRA 14:11)

1. Institut khimicheskoy fiziki AN SSSR.
(Thermostat)

TRUBNIKOV, G.V., kand. med. nauk

Case of Addison's disease concomitant with arterial hypertension.
Sov. med. 28 no.9:109-111 S '65.   (MIRA 18:9)

1. Klinika fakul'tetskoy terapii (zav. - dotsent G.V.Melik-Bab-
khanov) Altayskogo meditsinskogo instituta, Barnaul.

CHERKASSKIY, M.A., prof.; TRUBNIKOV, G.V.

Course of the reparative process in conservative treatment of an
acute lung abscess. Sbor. trud. Kursk. gos. med. inst. no.16:314-
323 '62.   (MIRA 17:9)

1. Iz kliniki propedevtiki vnutrennikh bolezney (zav. - prof. M.A.
Cherkasskiy) Kurskogo meditsinskogo instituta.

TRUBNIKOV, I.I., starshiy prepodavatel'

Strains in the blade of band saws. Trudy STI 34:97-101
'63.

(MIRA 17:2)

TRUBNIKOV, I.S.

Ring-chain tautomerism. Part 2: Structural factor determining the configuration of γ-keto and γ-aldehydo acids. Zhur. org. khim. 1 no.9:1526-1529 S '65.   (MIRA 18:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova.
Submitted May 28, 1964.

TRUBNIKOV, I.S.

Possibility of intramolecular, truly monomolecular prototropic
conversions. Vest. Mosk. un. Ser. 2:Khim. 20 no. 5:83-84
S-O '65.   (MIRA 18:12)

1. Kafedra organicheskoy khimii Moskovskogo gosudarstvennogo
universiteta. Submitted Dec. 14, 1964.

PENTIN, Yu.A.; TRUBNIKOV, I.S.

Ring-chain tautomerism. Absorption spectra and structure of
ketols in solutions. Dokl. AN SSSR 146 no.1:107-110 S '62.
(MIRA 15:9)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.
Predstavleno akademikom A.N. Nesmeyanovym.
        (Tautomerism)   (Ketols—Spectra)

PENTIN, Yu.A.; TRUBNIKOV, I.S.; TEPLINSKAYA, R.B.; SHUSHERINA, N.P.;
LEVINA, R.Ya.

Infrared spectra and structure of solid δ-ketonic acids. Zhur.ob.-
khim. 32 no.6:1927-1933 Je '62. (MIRA 15:6)

1. Moskovskiy gosudarstvennyy universitet im. M.V.Lomonosova.
(Acids, Organic—Spectra)

AUTHORS: Pentin, Yu. A., Trubnikov, I. S., Teplinskaya, R. B.,
               Shushenina, N. P., and Levina, R. Ya.

TITLE: Infrared spectra and the structure of δ-keto acids

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya,
               v. 27, no. 1, 1963, 55-58

TEXT: IR spectra were taken in order to study the structures of five
liquid and some crystalline δ-keto acids which, according to J. Cason
and E.J. Reist (J.Organ.Chem.,23,1675(1958)), may exist in two
tautomeric forms:

                    (A)   (B)
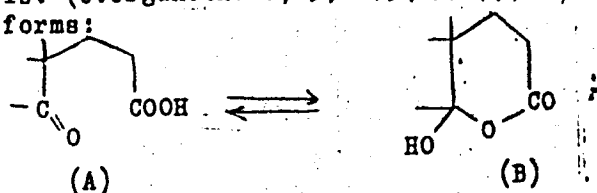
Spectrum analyses in the 3600 - 2000 cm^{-1} region (stretching vibrations

Card 1/3

S/048/63/027/001/020/043
B106/B101

Infrared spectra and the ....

of OH of the carboxyl group at 3200 - 3000 cm^{-1}) and 1800 - 700 cm^{-1} region (characteristic absorption bands of the carboxyl group) showed liquid and crystalline δ-keto acids to exist in the open-chain keto structure A, since an absorption characteristic of the lactole form (at $\sim$3200 cm^{-1}) was not observed. Liquid δ-keto acids (e.g. $CH_3COCH(i-C_3H_7)CH_2CH_2COOH$) are associated. A study of mixtures of a δ-keto acid with acetophenone-o-carboxylic acid having lactole structure showed that this structure becomes noticeable at a 3% content and clearly visible at 5% by an intensive 3300 cm^{-1} band. In a solution of carbon tetrachloride or chloroform the δ-keto acids (γ-acetyl butyric acid, γ-benzoyl butyric acid, γ-benzoyl pelargonic acid) as well as γ-keto acids (levulinic acid, β-benzoyl propionic acid) occur in the open-chain form, since there is no absorption either in the 3400 - 3200 cm^{-1} or in the 3600 - 3550 cm^{-1} regions (stretching vibrations of OH of the hydroxylactone form of keto acids). In concentrated solutions, δ-keto acids are dimerized; the content of the monomeric form increases as the concentration decreases. There are 2 figures.

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Infrared spectra and the ...   S/048/63/027/001/020/043
                                                B106/B101

ASSOCIATION: Moskovskiy gos. universitet im. M.V. Lomonosova
               (Moscow State University imeni M.V. Lomonosov)

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5(3)   SOV/79-29-4-4/77
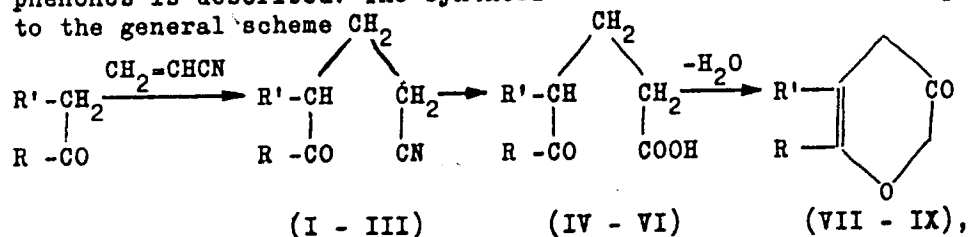AUTHORS: Shusherina, N. P., Trubnikov, I. S., Levina, R. Ya.

TITLE: δ-Lactones (δ-Laktony). XVI. Synthesis of Aryl-substituted
                δ-Enol Lactones (XVI. Sintez arilzameshchennykh δ-enollaktonov)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1062-1064 (USSR)

ABSTRACT: The authors previously described the synthesis of the 6-phenyl-
                3,4-dihydro-α-pyrone from monocyanoethylated acetophenone
                (Ref 1). In the present paper the synthesis of some other aryl-
                substituted δ-enol lactones from monocyanoethylated methyl-n-
                tolyl-, methyl-benzyl ketones and monocyanoethylated propio-
                phenones is described. The synthesis was carried out according
                to the general scheme

$$R'-CH_2 \xrightarrow{CH_2=CHCN} \begin{array}{c} R'-CH \\ | \\ R-CO \end{array} \begin{array}{c} CH_2 \\ CH_2 \\ | \\ CN \end{array} \longrightarrow \begin{array}{c} R'-CH \\ | \\ R-CO \end{array} \begin{array}{c} CH_2 \\ CH_2 \\ | \\ COOH \end{array} \xrightarrow{-H_2O} \begin{array}{c} R'- \\ R- \end{array}$$

| | R'-CH_2 | | R'-CH | | R'-CH | | R'- |
| R-CO | | | R-CO | CN | R-CO | COOH | R- |

(I - III)   (IV - VI)   (VII - IX),

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δ-Lactones. XVI. Synthesis of Aryl-substituted δ-Enol Lactones

where in $(I,IV,VII):R=n-CH_3C_6H_4,R'=H;$

in $(II,V,VIII):R=CH_3,R'=C_6H_5;$

in $(III,VI,IX):R=C_6H_5,R'=CH_3.$

The monocyanoethylation of the methyl-n-tolyl ketone was per-
formed according to a method devised previously by the authors
for the cyanoethylation of acetophenone (Ref 1). Methyl-benzyl
ketone and propiophenone were caused to react with acryl nitrile
under conditions used in the monocyanoethylation of ketones
(Refs 2,3). The hydrolysis of the δ-ketonitriles (I-III) ob-
tained and the lactonization of the δ-keto acids (IV-VI) ob-
tained gave three isomeric aryl-substituted δ-enol lactones,
namely: 6-(n-tolyl)-3,4-dihydro-α-pyrone (VII); 6-methyl-5-
phenyl-3,4-dihydro-α-pyrone (VIII), and 5-methyl-6-phenyl-3,4-
dihydro-α-pyrone (IX). There are 6 references, 2 of which are
Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet (Moscow State University)

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PENTIN, Yu. A.; TRUBNIKOV, I. S.; TEPLINSKAYA, R. B.; SHUSHERINA, N. P.; LEVINA, R. Ya.

Infrared spectra and structure of δ-keto acids. Izv. AN SSSR. Ser. fiz. 27 no.1:55-58 Ja '63.   (MIRA 16:1)

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(Acids, Organic—Spectra)

PENTIN, Yu.A.; TRUBNIKOV, I.S.; SHUSHERINA, N.P.; LEVINA, R.Ya.

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Zhur. ob. khim. 31 no.7:2092-2096 Jl '61.   (MIRA 14:7)

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Predstavleno akademikom A.N.Nesmeyanovym.
                 (Acids, Organic)

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δ -Lactones and δ-lactams. Part 24: Reduction of δ-enol lactones by lithium aluminum hydride. Preparation of Δ^2 -di- hydropyrans. Zhur. ob. khim. 31 no.4:1076-1079 Ap '61.

(MIRA 14:4)

1. Moskovskiy gosudarstvennyy universitet.
(Lactones) (Aluminum lithium hydride) (Pyran)